



## Original article

### Working conitions of the nutritionist in the food and nutrition units during the COVID-19 pandemic

#### *Condições de trabalho do nutricionista nas unidades de alimentação e nutrição durante a pandemia de COVID-19*

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### Abstract

**Objective:** to analyze the working conditions of the nutritionist in the Food and Nutrition Unit at the time of the COVID-19 pandemic. **Materials and Methods:** this is a quantitative and cross-sectional study. The population is composed of nutritionists from Food and Nutrition Units registered and active in the Regional Nutritional Council in the 9<sup>th</sup> Region. An adapted online questionnaire was applied, structured with 12 questions about the working conditions of these nutritionists in the Food and Nutrition Unit during the COVID-19 pandemic, sent through a link by email, WhatsApp, Facebook and/or Instagram, from agreement registration on the council's website. **Results:** the research participants are mostly female, aged between 29 and 34 years old. A portion of 37% of respondents has more than 10 years of profession. With regard to the safety offered by companies to nutritionists in this pandemic period, 37% rated it with a grade 5 (very safe). **Conclusion:** it is concluded with this work that, despite all adverse and stressful situation caused by the pandemic, companies that offer collective food services seek to offer their employees good working conditions and safety.

**Keywords:** Occupational Health. Nutrition. Coronavirus Infections.

### Resumo

**Objetivo:** analisar as condições de trabalho do nutricionista em Unidade de Alimentação e Nutrição em época da pandemia de COVID-19. **Materiais e Métodos:** trata-se de um estudo quantitativo e transversal. A população é composta por nutricionistas de Unidades de Alimentação e Nutrição cadastrados e ativos no Conselho Regional de Nutricional na 9<sup>o</sup> Região. Aplicou-se um questionário online adaptado, estruturado com 12 perguntas sobre as condições de trabalho desses nutricionistas nas Unidade de Alimentação e Nutrição durante a pandemia de COVID-19, enviado através de um link pelo *e-mail*, *WhatsApp*, *Facebook* e/ou *Instagram*, de acordo com cadastro no site do conselho. **Resultados:** os participantes da pesquisa são, em sua maioria, do sexo feminino, com idade entre 29 e 34 anos. Uma parcela de 37% dos entrevistados possui mais de 10 anos de profissão. No que diz respeito à segurança ofertada pelas empresas aos nutricionistas no período de pandemia, 37% classificaram com nota 5 (muita segurança). **Conclusão:** conclui-se, com este trabalho, que, apesar de toda situação adversa e estressante causada pela pandemia, as empresas que oferecem serviços de alimentação coletiva, buscam ofertar aos seus colaboradores boas condições de trabalho e segurança.

**Palavras-chave:** Saúde do Trabalhador. Nutrição. Infecções por Coronavírus

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## Introduction

Food is a basic need of extreme importance in the health of the human being, considering not only biological aspects, but also social, psychological and economic aspects. A quality food is understood as the supply of healthy foods, free of physical, chemical and biological contaminants, which present sensory acceptance according to the expectations of those who make use of it and meet nutritional needs<sup>1</sup>.

The growing industrial development initiated in Brazil, since the second half of the twentieth century, has provided numerous changes in the social scope and patterns of food consumption of the population that increasingly migrates to the habit of eating out of the house, in order to optimize their time and activities. This transformation is also associated with a significant increase in food production and marketing establishments<sup>2</sup>.

Every institution that involves the production, distribution of food, ingredients and meals for a collective is recognized as an activity of the food sector. Meals made outside the home, whether in schools, restaurants, nursing homes, businesses, hotels, prisons, hospitals, among others, are called collective food and commercial food<sup>3</sup>.

Collective feeding is one of the many areas of activity of the nutritionist, when he performs his role in the Food and Nutrition Units (FNU), which are the places responsible for the food and nutritional care of a target audience, in order to ensure a safe and healthy diet. The responsibility of planning, organizing, directing, supervising, evaluating and guiding production processes, from the acquisition of raw materials and evaluation of suppliers to the distribution of the final product is the nutritionist<sup>4</sup>.

In the FNUs are developed not only activities related to the direct production of food, but also technical-administrative, handling, fractionation, preparation, storage, distribution, exhibition and dispatch, development of programs focused on nutritional education, individual and collective, planning and execution of research and these practices are governed by the DRC n. 2016/20045.

With high-strain activities in a short period of time, this routine tends to lead workers in food and nutrition units to often adapt their described activities to the reality of the workplace, which generates inadequate working conditions, excessive tiredness, a fall in productivity, health problems and even work accidents<sup>6</sup>.

Some of these problems can also be caused by the use of erroneous techniques, lack of personnel training, outdated equipment and poor ergonomic conditions of the work environment, and workers are exposed to various risk factors<sup>5</sup>. It is also the responsibility of the nutritionist to



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know the Regulatory Standards (RS) that deal with ergonomics, safety at work, occupational risks, among others necessary for the safe functioning of the environment<sup>7</sup>.

The new Coronavirus (Sars-Cov-2) appeared in December 2019 in China and in March 2020 the World Health Organization considered it a global pandemic. Therefore, due to the absence of specific and effective treatment (vaccines and medications), several non-pharmacological measures of personal hygiene (use of masks, sanitization with 70° alcohol in gel) and social distancing were adopted to try to curb the growth of the disease and collapse of health systems<sup>8</sup>.

In the current world reality, with the COVID-19 pandemic altering the routines and forms of work of the population, the nutritionist responsible for the Food and Nutrition Units was seen with one more function: planning and organizing the work environment in order to minimize the risks of contamination of the disease to the users of the unit<sup>9</sup>.

In addition to all the care and protocols created by the companies, to avoid agglomerations, reduce unnecessary contact between people and collective equipment, it was also up to the nutritionist to define new standards of work, execution and distribution of food: organization of the cafeteria, strategies of disposal and to serve food, organization of shifts among workers<sup>10</sup>.

In view of every study presented, the research aimed to characterize the working conditions of nutritionists working in Food and Nutrition Units registered in CRN-9, justifying the idea that often the work of the nutritionist is very demanding as to what should be done, served, required, so that users of this service are cared for nutritionally and pleasantly. However, the health of the workers responsible for performing this work and the responsible nutritionist is not as taken into account and analyzed in as detailed a way as it should be.

The aim of this study was to analyze the working conditions of the nutritionist in the Food and Nutrition Unit at the time of the COVID-19 pandemic.

## Materials and Methods

The study has a descriptive, quantitative and cross-sectional nature. According to the Federal Council of Nutritionists<sup>10</sup> (CFN), in the statistical framework of the 4<sup>th</sup> Quarter of 2020, approximately 13,000 (thirteen thousand) nutritionists in Minas Gerais are qualified, totaling a sample of 100 participants according to the parameters with sample error 5%, 95% confidence level and population distribution (80/20). The research was included in nutritionists who work in FNU's and were willing to answer the questionnaire, by agreement with the Free and Informed Consent Form (TCLE), being excluded professionals who are not active in the CRN, do not have access to

social networks or who did not answer correctly or who presented inconsistencies in the answers of the electronic questionnaire applied. In a total of 100 nutritionists who responded to the instrument, only 27 responses were used due to inclusion criteria.

As a research instrument, a structured electronic questionnaire elaborated by researchers in google forms was applied, available through a link sent by social network, e-mail or whatsapp, these collected on the CRN-9 website, with 12 questions that cover data related to the working conditions of the nutritionist of feeding units during the COVID-19 pandemic, containing questions with questions about gender (male/female), year of graduation, city and state, time of work in FNUs, impact of the pandemic in the workplace, change in working hours, availability of personal protective equipment (EPIs) and safety of the institution in relation to the prevention of contamination by COVID-19.

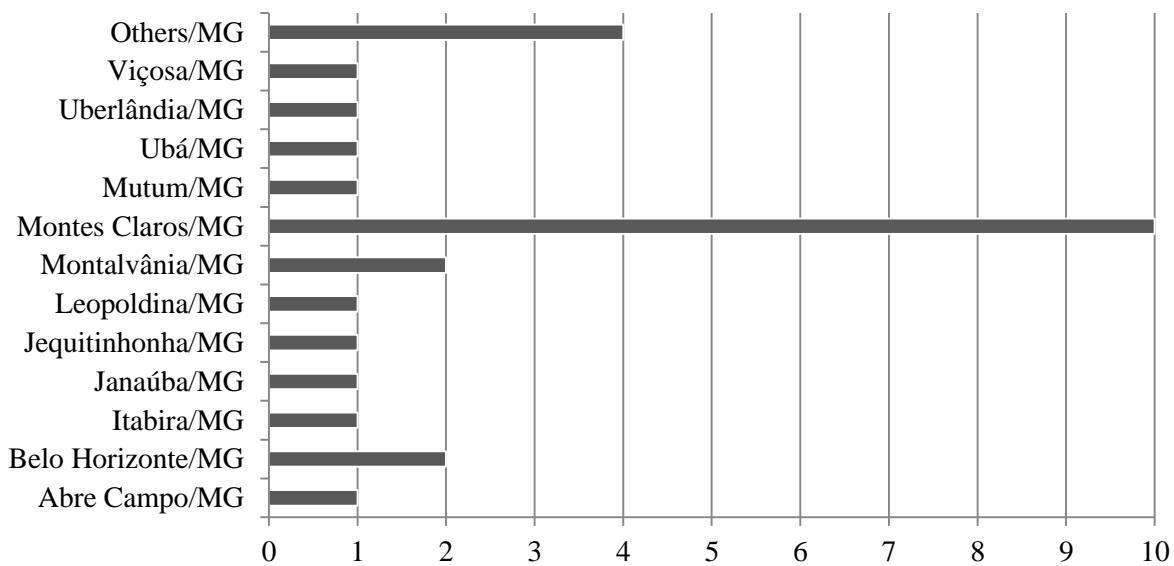
The data collection period occurred in August and September 2021. The choice for this technique proved to be adequate, considering that, in addition to providing a greater number of participants to make up the research sample, it guarantees the safety of the individuals involved, through the situation of care and social distancing necessary in the face of the global pandemic of COVID-19.

The data were analyzed using statistical package for the social sciences (SPSS®), version 18.0, for Windows. For the characterization of the sample, descriptive analyses of the variables were performed with the presentation of absolute (n) and relative (%) frequencies.

The study was forwarded to the Research Ethics Committee of the United Colleges of The North of Minas Gerais, evaluated and approved under opinion n. 4,899,853. This study was elaborated and executed following the norms and guidelines that guide research involving humans and animals (Resolution 466/12 of December 12, 2012 of the National Health Council). The anonymity of those involved in this study, informed to them, was maintained, following what is provided in the Informed Consent, aiming at greater support, reliability of the answers and security of the data provided during the research.

## Results

The data were processed and analyzed based on the answers of 27 professionals who were willing to answer the questionnaire and fit the characteristics required for the study. Based on the results achieved by the survey, 37% of the participants live in the city of Montes Claros (Figure 1).

**Figure 1** – City/State of residence.

The sample consisted mostly of women, totaling 92.6%, and aged between 29 and 34 years (37.0%). Among professionals, 48.2% declare brown skin 3color, the total family income mostly at up to 4 minimum wages (66.7%), according to the data reported in Table 1.

Most participants have graduate degrees in the area (63.0%), completed higher education in 2010 or previous years (40.7%), thus having 10 years or more in the practice of the profession (37.0%, n=10) and work with a workload of 8 hours/day (59.3%).

All interviewees stated that they were registered with the CRN, and 40.7% (n=11) reported that their monthly income was not affected by the pandemic and remained the same. However, there were professionals who had a small drop in income (33.3%, n=9), others had a significant reduction (11.1%, n=3) and there were also professionals who had a considerable increase (14.8%, n=4).

Regarding the impact of the pandemic on the work bond of the research participants, 55.6% (n=15) pointed out that there were no changes, another 28.6% (n=8) achieved a new job opportunity and 7.4% (n=2) changed or lost their work during the pandemic.

**Table 1** – Sociodemographic profile of nutritionists during the COVID-19 pandemic. Minas Gerais Brazil.

Variables	n	%
<b>Gender</b>		
Female	25	92.6
Male	02	7.4
<b>Color of the skin</b>		
Brown	13	48.2
White	12	44.4
Indigenous	01	3.7
Black	01	3.7
<b>Age</b>		
Between 23 and 28 years	07	25.9
Between 29 and 34 years	10	37.0
Between 35 and 40 years	03	11.1
Between 41 and 50 years	07	25.9
<b>Family income</b>		
Up to 4 minimum wages	18	66.7
Between 5 and 7 minimum wages	06	22.2
Above 8 minimum wages	03	11.1
<b>Level of education</b>		
Graduated	06	22.2
Postgraduate	17	63.0
Master's degree	03	11.1
Doctorate degree	01	3.7
<b>Year of course completion</b>		
2010 or less	11	40.7
2011 to 2015	07	25.9
2016 to 2021	09	33.3
<b>Time in the profession</b>		
Up to 5 years	12	44.4
Between 5 and 10 years	05	18.5
10 years or more	10	37.0
<b>Working hours</b>		
Up to 6 hours/day	08	29.6
8 hours/day	16	59.3
Between 8 and 10 hours/day	02	7.4
I'm not working	01	3.7
<b>Primary area of activity</b>		
Clinical Nutrition	01	3.7
Nutrition in collective feeding	19	70.4
Nutrition in Collective Health	01	3.7
Nutrition in the Production Chain, Industry and Food Trade.	06	22.2
<b>Secondary area of activity</b>		
Collective food	04	14.8
School meals	02	7.4
Private service	02	7.4
Teaching	02	7.4
Clinical Nutrition	05	18.5
Nutritionist in Long-Term Institution	01	3.7
Does not work in another area	11	40.7

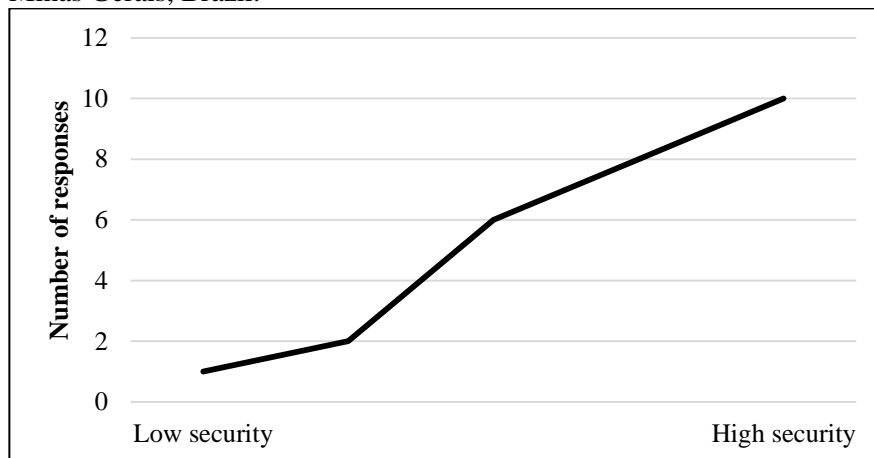
When asked about the availability of personal protective equipment (PPE's) and precautionary measures by the institution for the technical nutrition team, most reported that the equipment is provided by the company and all claimed to make use of the equipment and methods available. However, some institutions asked employees to wear fabric masks, brought by themselves (Table 2).

**Table 2** – Availability of Personal Protective Equipment (PPE) and Collective Protection Equipment (CPE's) for the nutrition team during the COVID-19 pandemic. Minas Gerais Brazil.

PPE's and CPE's	n	%
Washbasin with running water and liquid soap or equivalent	18	66.7
Hand sanitizer gel	21	77.8
Disposable gloves	16	59.2
surgical masks	12	44.4
N-95 masks	04	14.8
Fabric masks	09	33.3
Own masks (employees need to bring their own)	07	25.9
Face shield/glasses	10	37.0
Sanitizing/disinfecting product for surfaces	20	74.1
I'm not working in person.	03	11.1
Others	02	7.4

Regarding the prevention of contamination by the new coronavirus, the nutritionists interviewed classified their working conditions with a score of 1 to 5 in relation to minimum safety consistent with their area of activity (Figure 2).

**Figure 2** – Safety conditions in the institution of professional nutritionists. Minas Gerais, Brazil.





## Discussion

The collective food sector is increasingly growing in the labor market, evidencing the intense technological change and has become an expanding area for the performance of the nutritionist, mainly due to the high demand for outsourcing of the food production sector<sup>11</sup>. In his research, Faria<sup>4</sup> inferred that, despite the controversies found in other studies, nutritionist professionals working in the area of collective feeding are satisfied with their this branch and do not consider only a temporary area.

A study conducted by the CFN (Federal Council of Nutritionists) presents data that corroborate the data obtained in this study. According to the CFN, 94.1% of nutritionists in Brazil are female, and 68.6% are classified as white and 80.9% have ages between 25 and 44 years and have average monthly income between 3 and 4 minimum wages<sup>10</sup>.

With regard to the professional profile, the CFN<sup>11</sup> (2021) research also covers these aspects, which agree with the results analyzed. About 70% of the professionals registered in the National Council have graduate degrees, of which 72% have been trained for more than five years and have a working day of 40 hours per week (8 hours/day)<sup>10</sup>.

Matos<sup>12</sup> (2020) presented a thesis on quality of life and well-being in the work of Brazilian nutritionists before and during the COVID-19 pandemic and concluded the negative influence of the pandemic with regard to the nutritionist's wage issue in Brazil.

IBGE data (2021)<sup>13</sup> report that the employment crisis worsened in the country and jumped from 11.6% to 12.2%. In general, the number of jobs in Brazil during the pandemic period suffered an impacting drop, considering that, even if small, any negative percentage variation represents a large number of people, considering the size of the Brazilian population<sup>14</sup>. However, in the study in question, there was no significant drop in the labor market for the nutritionist, only 7.4% reported change or loss of employment.

In the study developed by Santa (2021)<sup>15</sup>, it is demonstrated the intensification of safety care, not only of nutritionists, but of every collective involved in the institutional environment, in order to mitigate the spread of the virus and consequent removal of workers who contract the disease. The safety measures, deemed necessary by ANVISA (National Health Surveillance Agency), based by international agencies, were adopted not only in the work environment of the nutritionist, but throughout the national territory, aiming at reducing the transmission of the disease through relatively simple practices, such as the use of protective masks (which may be woven or



disposable and type N-95), gel sanitizers and social distancing<sup>16</sup>. These measures were also observed in the present study, most companies offered security measures against COVID-19.

The field of collective feeding has been expanding, aiming to serve the population that does not present viable conditions to eat at home and with this, the professional nutritionist has paramount importance throughout the process related to food, from the choice of raw material, supervision and collection of adequate infrastructure, training to employees responsible for food, compliance with standards and food safety. In order to maintain always adequate quality control, companies need to provide support for security measures not only during the pandemic, but throughout the process, so that diners have a quality diet.

The study presented some limiting factors that should be analyzed. One of these factors refers to the sample size, which was reduced to expected, because it was restricted to nutritionists of FNU's enrolled in CRN-9, but which allows considering the results found for the population in question. Another factor is related to the lack of studies and published research regarding the working conditions of nutritionist professionals in the Food and Nutrition Units, thus requiring more research in this area to be carried out.

It is proposed that, in the future, there be more possibilities for further research to expand the sample, in terms of cities and/or states, of nutritionists working in the area in question, and the working conditions of these COVID-19 post pandemic can also be evaluated.

## **Conclusion**

Workplaces offer support to professional nutritionists who work in companies. These professionals also stated, for the most part, that companies offer a minimum security relationship, given the current situation of pandemic, considered very good. With regard to prevention and safety methods regarding the dissemination of COVID-19, companies in general provide various hygiene items and PPE's to ensure that their employees are protected and able to develop their functions. Thus, it is concluded with this work that, despite all the adverse and stressful situation caused by the pandemic, companies that offer collective feeding services seek to offer their employees good working conditions and safety.

It is expected, with the results obtained in this study, to have a wider range of information, both for nutritionists and for society in general, in order to add knowledge and awareness about the functions of a nutritionist that go far beyond setting up diets. It is important that nutrition

professionals are more valued in their attributions and have better assistance in relation to health care and risks.

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